Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 74 of the Commission's	)	MB Docket No. 18-119
Rules	)	
Regarding FM Translator Interference	)	

COMMENTS OF EDUCATIONAL MEDIA FOUNDATION

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COMMENTS OF EDUCATIONAL MEDIA FOUNDATION

Educational Media Foundation ("EMF") hereby offers these comments on the Commission's Notice of Proposed Rulemaking in the above-referenced matter. As detailed below, EMF applauds the efforts of the Federal Communications Commission ("FCC" or "Commission") to streamline the process of resolving issues of interference between FM translators and full-power stations but, as detailed below, it has grave concerns about some of the suggestions advanced in the NPRM which could risk subjecting a significant part of the audience of primary FM stations to interference, imperiling the listening habits of a substantial number of loyal listeners to those stations.

I. INTRODUCTION AND SUMMARY

EMF is a noncommercial broadcaster, holding licenses for more than 300 full-power noncommercial educational broadcast radio stations which operate in both the reserved and unreserved portions of the FM band. It is also the licensee of a similar number of FM translators, operating in communities large and small across the country. Given its extensive experience in operating both full-power stations and FM translators, EMF is well positioned to offer its comments on the Petition.

As detailed below, EMF believes that translator interference should be resolved based on the desire to protect the radio listener, not to advance the interests of either a full-power station that wants to protect itself from potential interference from a translator, or the interests of the translator operator who does not want to change its facilities. The FCC should be focused on whether a listener's established listening habits will be disrupted by the introduction of a new secondary service to his or her listening environment. Arbitrary limits on interference protection should not be adopted – particularly one such as the 54 dBu contour suggested in the NPRM, as the use of this contour could result in a loss of ten to twenty percent (or, in some cases, more) of the audience of many FM stations. Translators are secondary stations, and the FCC should not change that definition by giving them new rights to create substantial interference to the long-established listening habits of primary FM stations.

As detailed below, contours and theoretical ratios of undesired to desired signal strength ("U/D" ratios) are tools best used in connection with macro determinations on allocations and similar matters, not on questions of whether there is actual interference to particular listeners at a given location. These tools are not well suited for making such predictions.

In resolving these interference complaints, the Commission's focus should continue to be on whether real listeners are receiving real interference from new translators. EMF suggests that the FCC strongly encourage employees of primary stations and translators work together to make that determination through on-off testing and joint communications with the affected listeners. Translators that are found to create actual interference should be permitted to file to move to any available channel to resolve any interference that is found to exist – a flexibility that may help defuse some of the current controversies by eliminating the all-or-nothing nature now

surrounding the resolution of these disputes. The emphasis should remain on preserving service to the radio public and protecting existing listeners.

II. DISCUSSION

A. FULL POWER STATIONS SHOULD BE ABLE TO OBJECT TO INTERFERENCE CAUSED TO LISTENERS BEYOND THEIR 54 DBU CONTOUR

In governing the FM radio dial, the Commission has created and administered a process for incorporating new and modified signals into the available spectrum. Unlike some countries where a broadcaster with more resources can drown out other broadcasters simply by raising broadcast power, the FCC has adopted allocation policies that have generally been effective in creating a "fair, efficient, and equitable" distribution of radio service among communities in the United States.[1] Further, the FCC has long accepted broadcaster input in such a way as to optimize the allocation of frequencies. For example, a broadcaster can file applications or rulemaking petitions to adjust channel allocations and station coverage patterns to better serve the public, sometimes even involving changes to multiple stations if such changes can be shown to provide overall improvement to the service provided by these stations. The FCC's allocation policies have also been sensitive to trying to provide opportunities for new entrants with sufficient motivation to own and operate a broadcast facility.

This allocation system has evolved over time as the country's broadcasting needs have changed. Early on, powerful stations with large coverage areas could easily be added to the broadcast landscape but, as broadcasting matured, opportunities for new stations have diminished. Smaller stations became the way to fill in some of the gaps between larger facilities. By permitting directional antennas for FM, white spaces were further filled in. Now, other than in very low population areas of the country, few opportunities exist to add full-power stations,

[1] 47 C.F.R. 307(b)

and low power stations (LPFM and translators) are perhaps the last opportunity to add additional services to the FM spectrum. These low power services provide the opportunity to augment existing services by, for instance, giving AM broadcasters an additional way to provide their programming to the public even as changes in environmental noise and listener behavior have reduced the effectiveness of many AM stations. But these low power services should be allocated with caution, as the relatively limited service they provide can, in some instances, come at a great cost to the primary service provided by existing broadcasters and relied on by the majority of the radio listening audience.

The United States FM broadcasting allocation system, as defined and controlled by the FCC's rules and policies, has created *de facto* protection zones around stations. For example, though a Class A or C station's 60 dBu contour is defined as "protected", the way facilities are spaced means that stations end up providing significant usable coverage well beyond their 60 dBu contour in some or possibly all directions. This area of "extended protection" is important for both the broadcaster (providing additional service and income opportunities) and the public (maximizing service to listeners dealing with urban sprawl, among other benefits).

Translator and LPFM stations have long co-existed in this environment because they are able to fit into the interstitial spaces between full-power stations while still being able to bring useful service to targeted areas of listeners. In many markets, translators can be quite effective over the long term because they are "sheltered" by second- or third-adjacent full-power neighbors. No co- or first-adjacent full-power station can come close enough to create interference, and because of the disparate power levels between translators and full-power stations, and with better frequency discrimination in today's radio receivers, second- or third-

adjacent channel stations generally do not interfere with one another (with the translator accepting any interference that does occur on the fringes of its coverage).

But, as the FM broadcasting service has matured, the FCC and the broadcasting industry need to acknowledge that the FM band is a limited resource. There will come a time – very soon, it could be argued – when certain radio markets become "full." Like Stephen Covey's famous "Big Rocks" illustration, the large and small stations have been placed into the market, and the translators and LPFM signals are now being poured in as the last step of filling the container. Some "settling" is still possible as the last bits of viable territory on the FM band are consumed, but the FM band is essentially full in many of the major markets, and rapidly becoming so in smaller and smaller population centers. Trying to squeeze more stations into an already full FM band will only degrade existing service, upset established listening habits, and be harmful to both existing stations and listeners.

Into this radio universe is introduced the proposals advanced in instant NPRM. At its core, the NPRM is intended to streamline interference resolution processes between translators and full-power stations. EMF believes this is a laudatory goal, as delay in the resolution of interference complaints serves neither the complaining station, the translator against whom the complaint is filed, nor the listeners. However, contained within the proposals in the NPRM is what EMF submits is a significant threat to FM service that would, ironically, create more interference, and has the potential to cause significant damage to the FM band in the United States.

The FCC should not change its rules in a way that it permits squeezing more stations into areas where the FM band is essentially full. It can be tempting to choose to reduce protection to one or more classes of FM service in an effort to allow more operators to squeeze into the

available space and to ease its obligations to resolve interference complaints. However, by reducing protections, the FCC will, by definition, increase interference and reduce service to the public. Alternatively, the Commission can exercise prudence by protecting existing listeners, ensuring FM broadcasting remains a viable way for the public to receive news, information, and entertainment, while still accomplishing the goals of the NPRM. EMF believes that one of the solutions advanced by the NPRM, ignoring interference that occurs beyond a designated contour (particularly one where very high levels of listenership can be demonstrated), is not the way to advance the public interest and serving the listening public. Listeners should be able to count on receiving the broadcast services to which they are accustomed, and not have those listening habits unnecessarily disrupted by new secondary services.

Broadcasters and the FCC should agree that maximizing interference-free coverage for all broadcasters is the ideal outcome. While improving the ability for broadcasters to rely on translators, including the support of incumbent AM broadcasters, is important, those valid goals should be properly balanced against the overarching goal of protecting the viability of the FM broadcast service itself. "Fair, efficient, and equitable" does not imply infinite growth potential; it instead defines boundaries for allocation of a limited resource. Indeed, permitting new, destructive interference to the primary service provided by full-power FM stations is, on its face, neither fair, efficient, nor equitable.

Placing an arbitrary contour-based limitation on the protection of "Primary" stations from "Secondary" station interference unfortunately will serve to degrade the listening experience of a substantial number of listeners to existing stations. Degradation of the listening experience results in the loss of significant listener good will and will adversely affect the long-term viability of the FM service in exchange for the incremental service provided by the translator

stations and for some reduction in the regulatory burden of resolving interference complaints. As set forth below, the loss of service will be very real, and thus EMF opposes the adoption of the suggested use of the 54 dBu contour as the outer limit of protected listening.

1. SIGNIFICANT LISTENERSHIP OCCURS OUTSIDE OF THE 54 DBU CONTOUR

EMF, along with other non-commercial/listener supported broadcasters, has access to a unique data set: Listeners who are passionate enough about our programming to provide their physical address(es) and, in many cases, financially support their local station. By analyzing the locations of these identified listeners and donors relative to the contours of each station, we can determine that there are many listeners who both regularly listen to and are passionate about programming beyond a station's 54 dBu contour. In fact, these listeners often reside outside even the 48, 42, 40 and 39 dBu contour depending on the unique characteristics of each market and its terrain. Research makes apparent there is routinely no sharp drop-off of contacts (representing real listeners) at any point except possibly in markets where the major population is encompassed within a relatively high-power contour. Some commercial broadcasters with whom EMF has discussed these issues have studied and found similar results.[2]

Listening patterns of a number of EMF stations are illustrated in Exhibit One hereto, where registered listeners and donors to a number of our stations are displayed. It is evident from these maps that cut-off of protection at the 54 dBu contour will result in a significant disruption to the EMF listening audience. In markets from the very large (like New York and Philadelphia) to much smaller (like Joplin, Missouri) thousands of registered listeners – and many more who have not directly contacted EMF – will be unprotected from the loss of service

[2] EMF has been provided audience research information from iHeart Communications, Inc. which support EMF's findings that listeners do not drop off substantially at the 54 dBu contour but instead are found in substantial numbers much further from the primary station than the arbitrary boundary provided by that contour. We understand that iHeart will be submitting these comments to the FCC confirming that, like noncommercial radio, commercial radio also has substantial listening beyond the 54 dBu contour.

that could arise from a closely spaced translator.[3] Without revealing specific donation levels of donors in this public document, EMF can say that losing coverage beyond the 54 dBu contours of its stations in populated areas served by many of its stations (where it would be particularly attractive for a translator operator to seek a station) would be very disruptive to its listening audiences and could result in a potential loss of a significant percentage of EMF's annual support from listener donations. Further, and perhaps more importantly, we know from audience research and ratings services that listeners far outnumber donors – meaning far more people would be harmed than just those who have provided us with their address. Thus, the proposal to limit protection to the 54 dBu contour undermines both radio's mission of providing service to the public, and erodes the financial ability of many stations (like many of EMF's stations) to carry out that mission.

Though it might take years for sufficient translators to be built to realize the full impact of the proposed change on any individual full-power broadcaster, the destructive impact on the FM service would begin almost immediately. Existing translator operators would quickly file to move closer to larger audiences, relying solely on the contour limitations imposed by Section 74.1204. By "creative engineering," a translator's contours can be made to pass the tests imposed by Section 74.1204 while still causing wide-spread real-world interference. For instance, EMF has in other contexts complained of secondary stations located in the "foothills" areas overlooking major metropolitan areas, where mounting an antenna half-way down a mountain rather than atop it reduces the height above average terrain of the proposed new secondary station, as the mountains behind the transmitter site average out the low terrain in front of the site. Because contours are based on the average terrain, in certain directions

[3] These numbers may be understated as they represent listeners who are exclusive to the named station. Some EMF registered listeners or donors may have been excluded as they are also served by EMF stations in adjacent markets.

coverage extends much further in reality than predicted by using the FCC's contour methodology. The interference that can be caused by such foothills stations in the lower areas in front of the translator's transmitter site can be massive, yet because they would be beyond the station's 54 dBu contour, nothing could be done under the NPRM's proposal. Thus, overall radio listening would drop, simply because there is less interference-free listening available. Why would the Commission intentionally choose to damage FM listening in this time of extreme competition from non-radio entertainment options such as streaming, podcasting, and other Internet-based technologies – especially since this kind of damage cannot be overcome by a broadcaster's compelling content. No matter how compelling the content, if a listener cannot hear the station because of interference, they will no longer be a listener.

The concept usually used in bioethics should apply here: "First, do no harm." Though most agree that AM broadcasters can benefit from FM translators, it is a fundamental requirement, built into the FCC's very charter, to avoid damaging radio listening overall in the process of improving the AM service or streamlining interference resolution. EMF believes that limiting interference claims to the 54 dBu contour will harm the industry, and urges the Commission to reject that proposal.

2. THE 54 DBU CONTOUR IS BY NO MEANS THE LIMIT OF COVERAGE

As stated above, the allocation processes in use in the United States has created *de facto* protection beyond the co-called "protected" contour of stations. Indeed, in the absence of interference, a radio signal will travel a very long distance before it becomes unlistenable. The FCC's allocation process, in order to allow multiple broadcasters to co-exist, assumes eventual interference. However, because the distances and signal ratios the Commission uses are conservative, that "intended interference" is well beyond the station's 54 dBu contour in many, if

not the majority, of cases. For example, the interfering 34 dBu F(50,10) contour of Class B station WKVP Camden NJ (FIN 20842) encompasses well over six times the area of its protected 54 dBu contour, with 86,932.8 square kilometers with no co-channel contour overlap.[4] EMF believes the actual listening to the station is many times that number—real-world listening that could be put at risk if the 54 dBu contour is found to be the limit of the WKVP protection.

Further, listenability depends to a large degree upon the quality of the equipment used for reception. A quality receive antenna can add significant distance to usable FM listening, and good-quality receiver circuitry can discriminate very weak signals. Using an inexpensive and readily available antenna, signals are very listenable far beyond a station's 54 dBu contour (for example, a Sony CDX-G1200U claims sensitivity of 7 dBf – much weaker than a 54 dBu signal, even using a simple dipole antenna)[5]. Many, if not most, car radios have similar capabilities of usable reception well beyond the 54 dBu contour. We urge the FCC to reject any action that would reduce or eliminate more distant users' ability to receive desired programming using readily-available, affordable methods such as provided by quality receivers and antennas.

3. CONTOUR METHODOLOGIES HAVE LIMITED USE

FCC contours have been appropriately used for low-resolution, large scale allocation-related purposes. Nonetheless, contours are an extremely simplified model in a very complex world, and cannot accurately predict high-resolution, small scale relationships between signals,

[4] The protected 54 dBu contour of WKVP encompasses 13,310.4 square kilometers, while the interfering 34 dBu contour includes 89,238.6 square kilometers—86,932.8 square kilometers of which includes no areas within protected contours of co-channel signals. Though of course there is first-, second-, or third-adjacent contour overlap, receiver discrimination ("selectivity") improves farther from the desired signal, so this has not been considered in this analysis. See Exhibit 2 for a map showing the relationship between WKVP's interfering contour and co-channel stations which intersect that area, demonstrating that there are vast areas outside the station's protected contour that are not predicted to receive interference from other stations. See also Exhibit 1, which clearly indicates that regular listenership outside the 54 dBu contour is not isolated to WKVP.

[5] Per a Google search conducted July 25, 2018, many stores sell this receiver for less than $100 (more than 20 stores, including Walmart, Best Buy, and Crutchfield) sell it for about $78.

such as would be found in a typical interference complaint scenario where smaller clusters of listeners or a few neighborhoods are impacted.

Contours are calculated based on limited data. Only locations between 3 and 16 kilometers from the transmitter site are considered when calculating contours, ignoring terrain outside of those limits. Yet, because of the parameters of 74.1204, most translator interference occurs near the edges of a station's coverage area, beyond the distance at which terrain is considered. For example, at the Class B contour distance of 65 kilometers, the 54 dBu contour is located 49 kilometers beyond the last considered terrain – meaning 80% of the terrain between transmitter and class contour distance is ignored.[6]

The FCC has long recognized the limitations of contour-based calculations, creating, for example, exceptions to the rules for calculating contours with "terrain… that departs widely from the average elevation…"[7] or for creating exceptions when terrain roughness "is found to depart appreciably" from the assumed "terrain roughness factor of 50 meters.[8]" Indeed, the FCC also created rules for television to use to calculate eligibility of individual households for satellite retransmission[9]. These rules permit the use of Longley-Rice calculations in cases where high resolution, "rooftop" accuracy results are required. These "exceptions" are exactly the kinds of scenarios which are typical for translator interference cases since translator interference is generally caused by translators which have already been approved using the contour-based requirements of 47 C.F.R. 74.1204[10].

[6] (49 + 3)/65 = 0.8
[7] 47 C.F.R. 73.313(e)
[8] 47 C.F.R. 73.313(i)
[9] 47 C.F.R. 73.683(d)
[10] We understand that the FCC's Audio Division is not currently set up to handle a wide-spread reliance on point-to-point evaluation technologies such as Longley-Rice and must therefore refer such studies to the OET. Perhaps more widespread use of these studies by the Audio Division could be used to judge the merits of many interference complaints.

4. CHANNEL RELATIONSHIPS

The FCC has long recognized that different channel relationships produce differing interference potential. The allocation rules clearly demonstrate the reality that co-channel interference is by far the most difficult to resolve; first adjacent interference is still a challenge, but easier than co-channel; and second-and third-adjacent interference are increasingly easier to resolve. IF-related interference, depending on power levels and distance, has its own set of challenges, but is typically limited to relatively small geographic areas.

Proposing a single contour value below which translator interference is disregarded ignores the realities of channel relationships. A station experiencing interference from a co-channel translator needs far greater protection than a 54 dBu contour could provide, even if the contour was an accurate small-scale representation of real-world signal strength. EMF has experienced co-channel interference complaints from regular listeners of its stations where Longley-Rice methods show localized signal strengths as low as 20 to 30 dBu.[11]

Because of the physical realities described above, no contour value (whether 54 dBu, 6 dB below protected contour, 48 dBu, or others that have been proposed) can be used in all or even most cases as the sole cut-off for translator interference. As can be seen in the case of stations or translators located in foothill regions, a particular dBu signal level can easily extend well beyond the matching dBu contour on the side toward the lower elevation. Because of the *de facto* protection described above, these areas beyond the 54 dBu contour provide regular

[11] Using such a contour method may also preclude future technological developments. As the Commission is aware, IBOC Transmissions, though compliant with the occupied bandwidth requirements do indeed place modulation in areas beyond the channel boundaries. These out-of-channel emissions, though weak, still cause noise and other interference to adjacent-channel signals. Presuming the FCC desires that someday most (if not all) translators will transmit using IBOC technologies, this type of interference adds another layer to the equation. It is EMF's assertion that choosing a single (or any) contour to limit the claim of interference ignores this future potential interference source. In the current rule environment, IBOC interference can often be resolved through methods including filtering or asymmetric sidebands, but if a contour boundary is in place, the interference will become un-resolvable (except, perhaps, as broadcasters choose to "play nice").

listenership for many stations. Nonetheless, if the Commission decides that it simply must have a contour beyond which no listener is protected, our research would suggest that it would have to be the 39 dBu contour or a lesser one. The FCC has offered no evidence that the 54 dBu contour represents any sort of drop-off point for radio listeners, and the evidence here provided by EMF, and that provided by the commercial broadcasters referenced in footnote 2, demonstrate that substantial radio listening occurs beyond the 54 dBu contour, listening which would be disrupted by the action proposed in the NPRM. While the vast majority of all listening in done within the 39 dBu contour, even selecting that contour would result in regular listeners to EMF stations potentially losing their service from stations on which they now depend.

5. U/D RATIOS HAVE LIMITED USE

The NPRM also suggests the use of U/D ratios to determine in individual cases the existence of actual interference. However, contour-based U/D ratios are fundamentally flawed in most cases of translator interference. It is true that U/D ratios have been successfully used to show very small unpopulated areas surrounding translator transmit antennas, typically in second- or third-adjacent channel relationships[12]. These calculations are typically contour-based, free-space loss calculations, or a combination. The locations where this methodology works are relatively close to the full-power station so that the primary class station's signal is very strong (perhaps 100 dBu or more), which permits the secondary class signal of the translator to drop to the appropriate U/D value in a very short distance, perhaps before it reaches the ground. Because of the proximity and power levels of the full-power station, the concerns about the accuracy of contour-based calculations are significantly reduced. Perhaps more importantly, in

[12] *See, e.g. Living Way Ministries, Inc*, Memorandum Opinion and Order, 23FCC Rcd 15070 (2008); *Educational Media Foundation*, Memorandum Opinion and Order, 19 FCC Rcd 5843 (2004).

the existing rule environment, Section 74.1203 acts as a fail-safe mechanism to validate the theoretical methods used.

After initial bona fide listener complaints are submitted, the NPRM proposes relying solely on theoretical U/D ratios to determine the existence or elimination of interference. However, no boundaries are proposed for that usage. EMF's experience is relevant: many cases of interference can be resolved by simply supplying the listener with a better-quality radio or antenna or by assisting the listener with proper mounting or orientation of their antenna. Such methodologies should remain available to translator owners to show that an interference complaint has been effectively resolved. Accordingly, EMF opposes the elimination of such complaint resolution options.

U/D ratios may be a viable solution in some cases, and EMF is not totally opposed to allowing their use in some cases to judge the likely validity of listener complaints. But to meet the stated goal of resolving translator interference, U/D ratios need to be one option among many, not the sole solution. For example, non-contour-based U/D ratios need to be acceptable as alternatives. Examples include free-space loss calculations (for cases very close to transmit antennas), on-site measurements using well-established field-strength measurement techniques, or other accurate methodologies of differentiating fact from opinion. These additional options provide flexibility in demonstrating interference resolution in cases where, for example, a complainant is unwilling or unable to change radio or antenna, or there are other circumstances that preclude simple solutions. Regardless, the real focus of the process should be on determining if there are real listeners affected by real interference from a new or changed translator, and whether or not that interference can be resolved.

B. OTHER PROPOSALS IN THE NPRM

The NPRM is oriented toward streamlining the resolution of interference caused by translators to full-power stations. The proposals therein, including the suggested contour limitation on interference complaints, are intended to shorten the timeline for resolving such complaints and reducing the burden on station owners, translator operators, and FCC personnel, while protecting the integrity of the FM broadcast service. In most cases, it seems to EMF, the emphasis should be on the listener, and determining whether he or she is in fact getting interference from a translator. This requires cooperation between the licensee of the station complaining about interference, and the translator licensee who is allegedly creating the interference. Too often the current complaint process ends up with the two parties working independently of each other – with the full-power station providing examples of interference, and the translator licensee trying to contact those individuals independently (and sometimes unsuccessfully as listeners sometimes just do not want to be bothered – particularly if the contact is made in some way that appear to be pulling them into the middle of a process that may look intimidating).

The FCC should strongly encourage or even mandate for the parties instead to work cooperatively in resolving interference. In the current model, interference resolution may be a fight for the life of the translator, given the FCC's current reluctance to allow for frequency changes beyond a change to the six adjacent channels (three up and three down). The NPRM's proposal to allow for changes to any available channel is one that EMF supports as, in many cases, a channel change may provide the best solution to avoid a battle over whether or not interference exists. Switch rather than fight in certain cases is the proper course.

EMF also agrees that a single truly unique listener far beyond the protected contour of a full-power station should not be able to block service from a translator. Interference should be prohibited where it can be shown that there is in fact an area where there are multiple listeners of a particular station whose use of that station is precluded by the new translator – not by the one station super-fan possibly with an expensive ultra-high gain antenna clinging to a distant signal. The NPRM's proposal that there be a minimum of 6 complaints before the FCC considers the matter appears to be reasonable. And, to preclude the unique listener from blocking service from a new translator, EMF suggests that there be at least three legitimate complaints that cannot be resolved before a translator is forced to shut down or change channels.

With the full-power and the translator licensees working together to resolve interference, EMF believes that certain information and processes need to be included in the resolution process. EMF supports mandating that complaints include the various data mentioned in paragraph 19 of the NPRM. EMF notes, however, that maps plotting specific listener addresses and station contours are only useful when the complaint is about listening at home or some other fixed location. Many translator interference complaints come from listening during regular drives (such as commuting) or at work. In those circumstances, the required map(s) should plot the location(s) or areas of the interference, even if that interference may occur at multiple points on a drive, and not necessarily at the complainant's home or business address.

On/off tests should also be part of the resolution process. Ideally, the Commission's rules should require that these tests be done with both parties present to observe the tests and see the results. If interference is resolved when the translator is shut down, there is a clear answer as to whether it was the source of the interference. If the interference persists, than the issue may well lie elsewhere. But both parties should participate in such tests.

The focus should be on the listener. Many listeners use poor quality radios or insufficient or poorly positioned antennas, and can therefore benefit positively if the translator operator provides a superior quality radio or antenna at no cost to the listener. This resolves the interference in a way that all three parties benefit: The station, by retaining a listener; the translator owner by being able to continue operating with a relatively small expenditure; and the listener, by receiving their desired programming.

The focus should also be on resolving interference, not on making the listener an unwilling pawn in the resolution process, and occasionally subject to inappropriate treatment by translator owners fighting an interference claim. Solutions should only be acceptable if they make the interference go away – not if they make the listener go away. For instance, a monetary incentive to "go away" or strongly worded letters with implied threats of legal action or other negative consequence or burden should not be permitted – and would likely not occur if the licensee of the full-power station and the translator are mandated to reach out together to listeners to try to resolve their perceived interference issues.

Therefore, EMF believes it important for the FCC to define resolution so as to make clear that only certain outcomes constitute success. Suggestions include restoration of the listener's ability to hear the desired station using a radio, restoration of the listener's ability to hear a desired program or content by any means at no cost to the listener, etc. Because the "pre-complaint" process described above can and should eliminate listeners who are only slightly interested in resolving the problem, monetary incentives seem inappropriate in all cases.

This resolution process should apply to all stations and all translators. As the Commission wisely stated in the NPRM, it is not "advisable or administratively feasible to

distinguish between fill-in and other area translators…"[13] EMF disagrees with Aztec's assertion that the translator interference rules were to "protect local full service stations from encroachment by out-of-market translators."[14] Simply because of their status as primary service facilities, all stations are protected from interference from secondary services, regardless of the location of the programming source or ownership. 74.1203 and 74.1204 are content- and ownership-blind and should remain so.

III. CONCLUSION

The emphasis in resolving complaints of interference should be on the radio listening public. The FCC should not take steps that have the potential for disrupting the listening habits of many radio listeners. Thus, arbitrary limits on the area in which primary stations should be protected from interference from secondary stations should not be adopted. Secondary stations are secondary – and they should routinely protect the listeners of full-power stations from significant loss of service. EMF urges the FCC to enact instead rules that push for joint resolution of interference issues, and allow translators to have the flexibility to move to any other available channel when real interference in fact exists.

Respectfully Submitted

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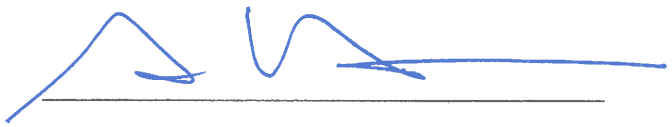
[13] NPRM at 25
[14] NPRM at 23

DECLARATION

I, Sam Wallington, Vice President of Operations and Engineering of Educational Media Foundation, hereby declare under penalty of perjury, that these Comments and the Exhibits thereto were prepared by me or at my direction, and are true and correct to the best of my knowledge and belief.

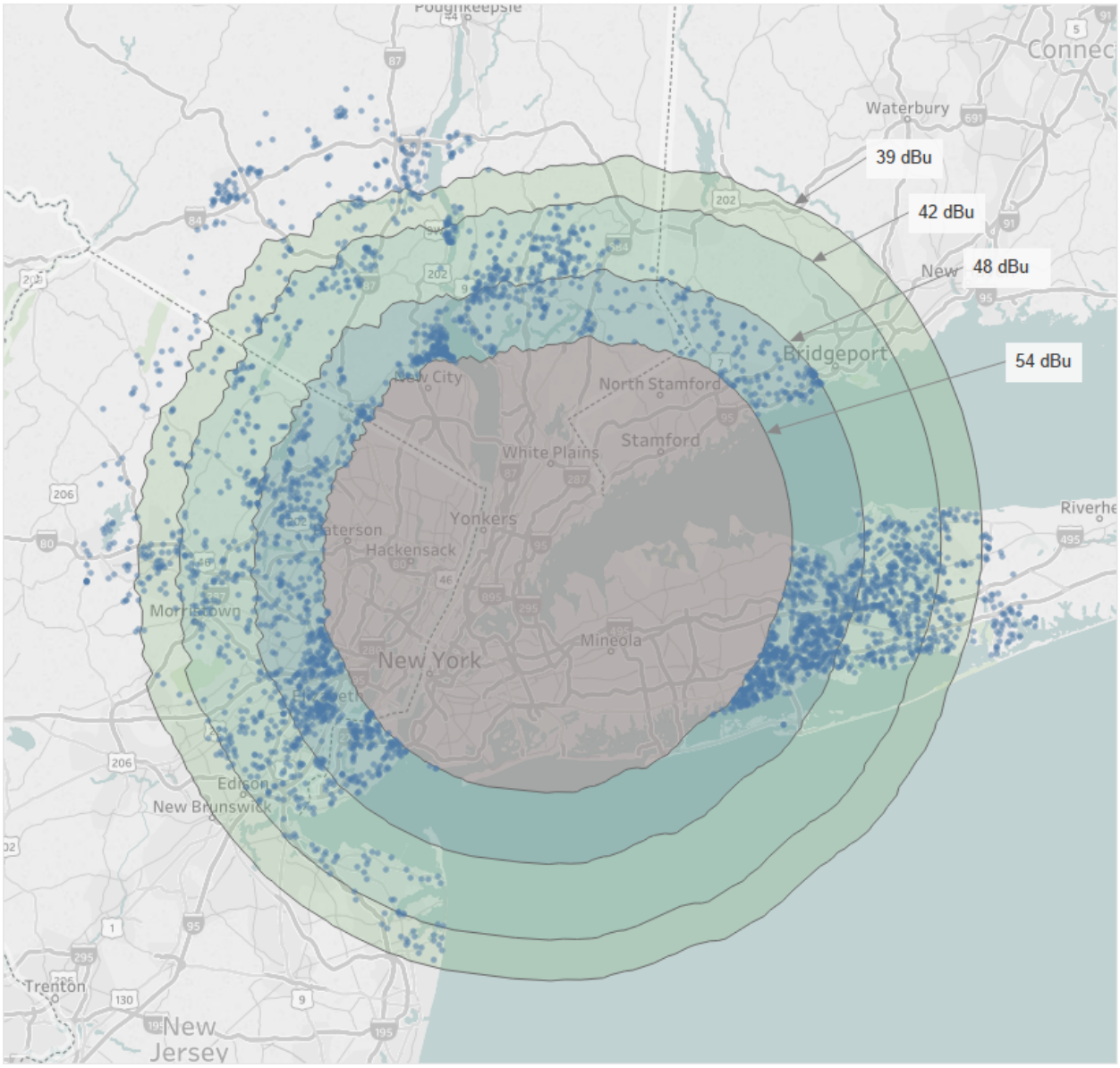


Sam Wallington

Date: August 6, 2018

Exhibit 1

New York NY - WKLV

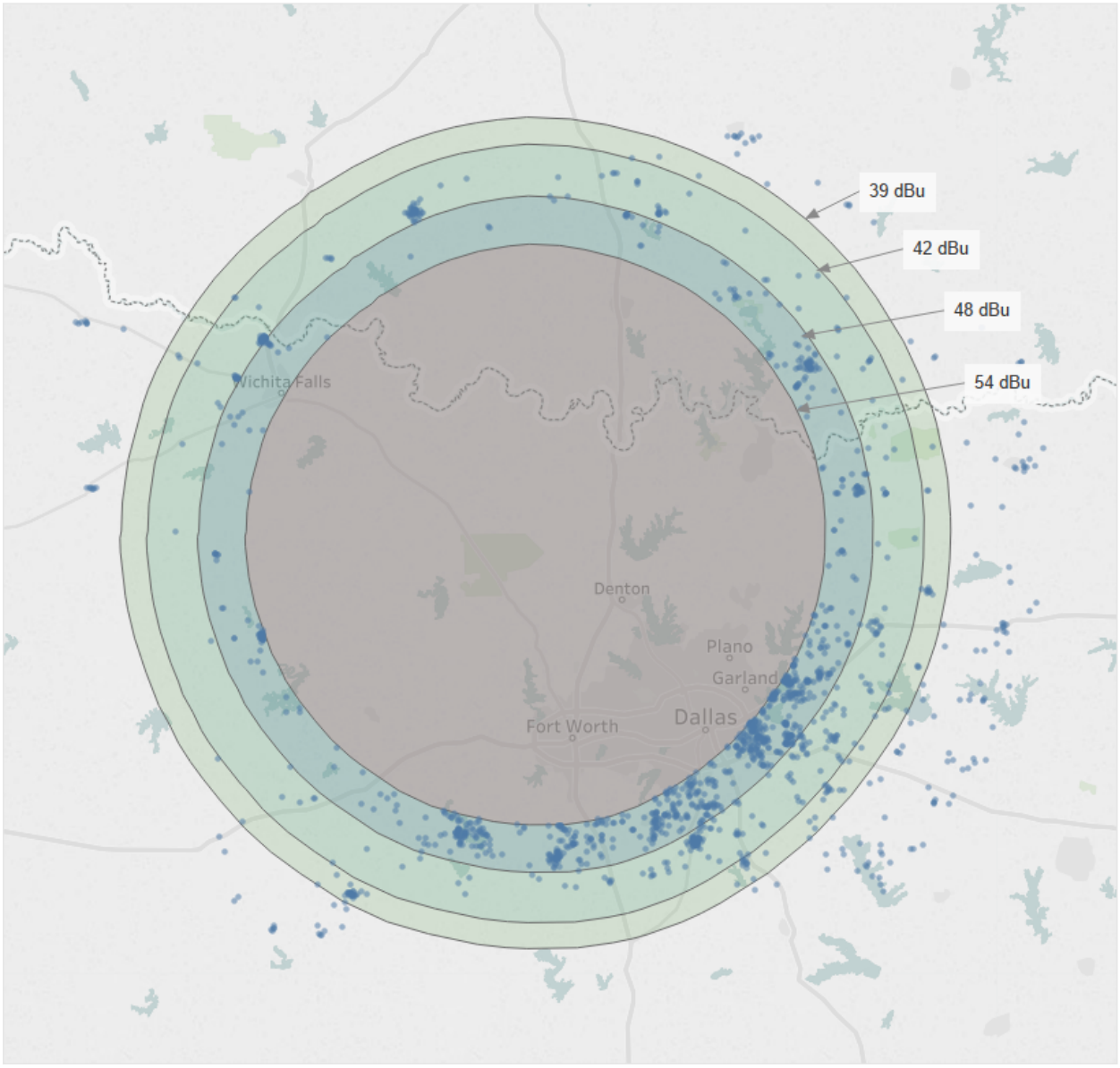


For WKLV Port Chester NY, during 2017 there were:

- 3,347 contacts beyond 54 dBu,
- 1,555 contacts beyond 48 dBu,
- 536 contacts beyond 42 dBu,
- 281 contacts beyond 39 dBu.

Note: Areas covered by other EMF stations with similar programming are excluded.

Dallas-Fort Worth TX - KYDA

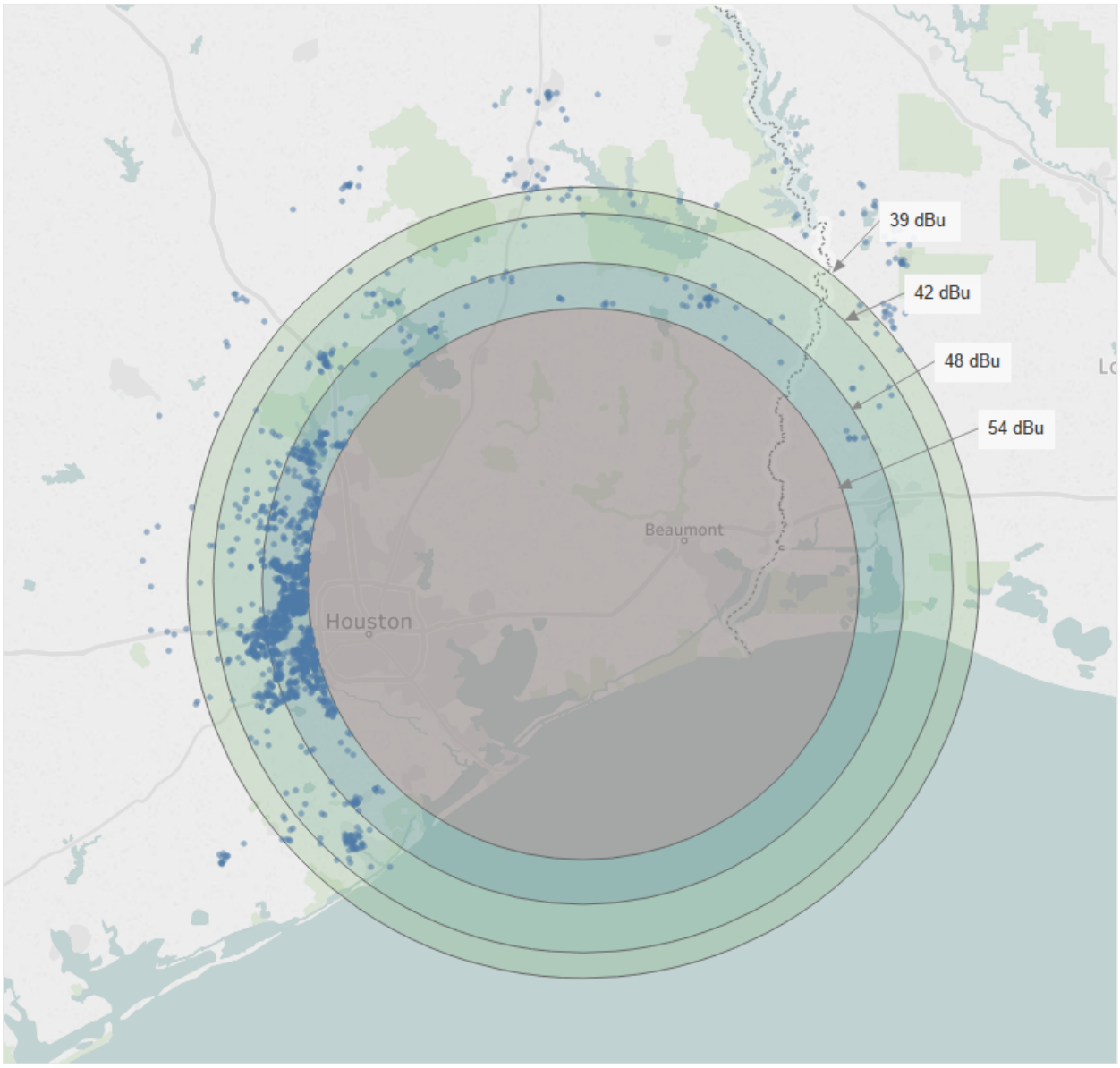


For KYDA Azle TX, during 2017 there were:

- 1,470 contacts beyond 54 dBu,
- 545 contacts beyond 48 dBu,
- 235 contacts beyond 42 dBu,
- 150 contacts beyond 39 dBu.

Note: Areas covered by other EMF stations with similar programming are excluded.

Houston TX - KHJK

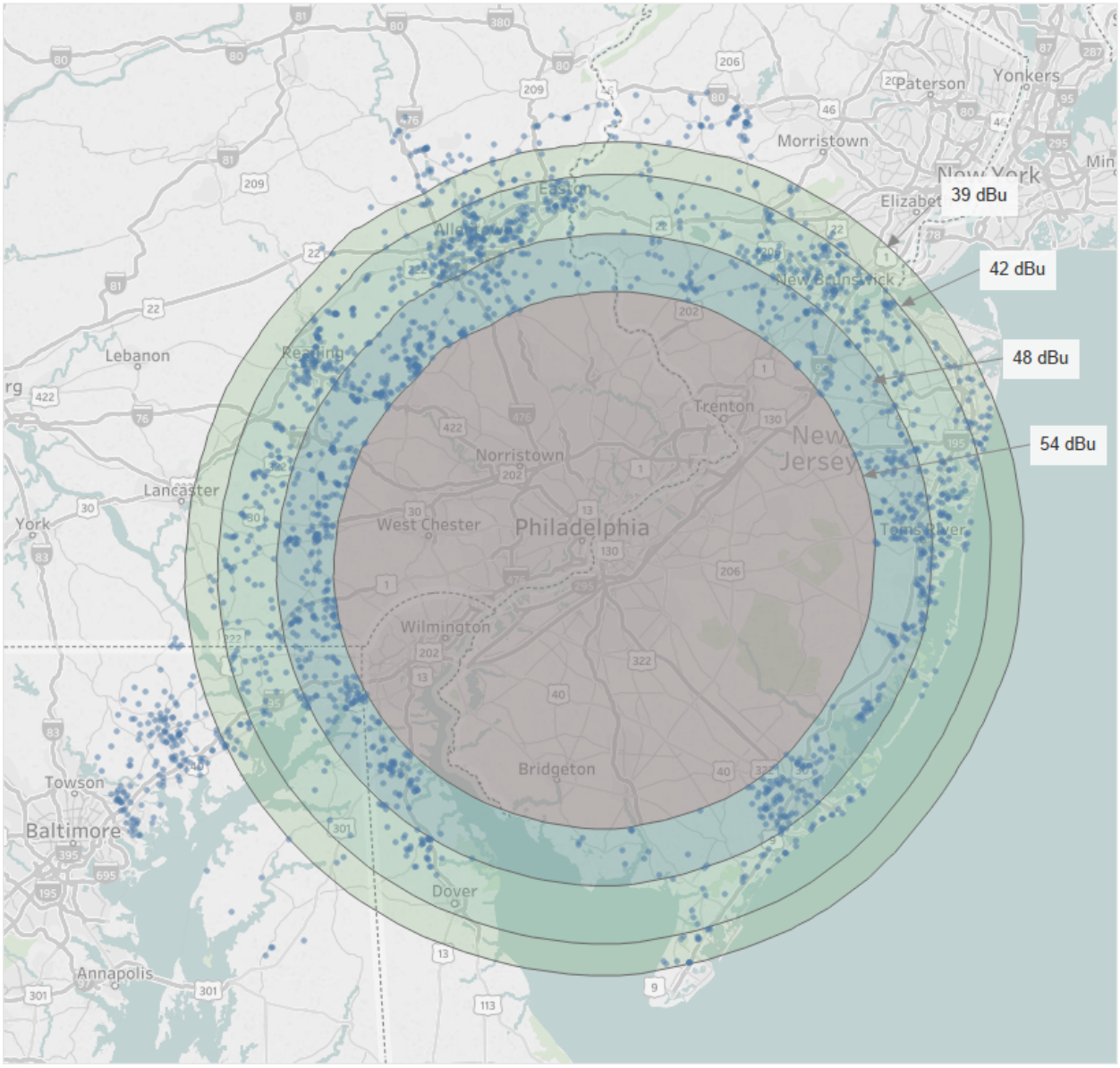


For KHJK LaPorte TX, during 2017 there were:

- 1,641 contacts beyond 54 dBu,
- 486 contacts beyond 48 dBu,
- 149 contacts beyond 42 dBu, and
- 120 contacts beyond 39 dBu.

Note: Areas covered by other EMF stations with similar programming are excluded.

Philadelphia PA - WKVP

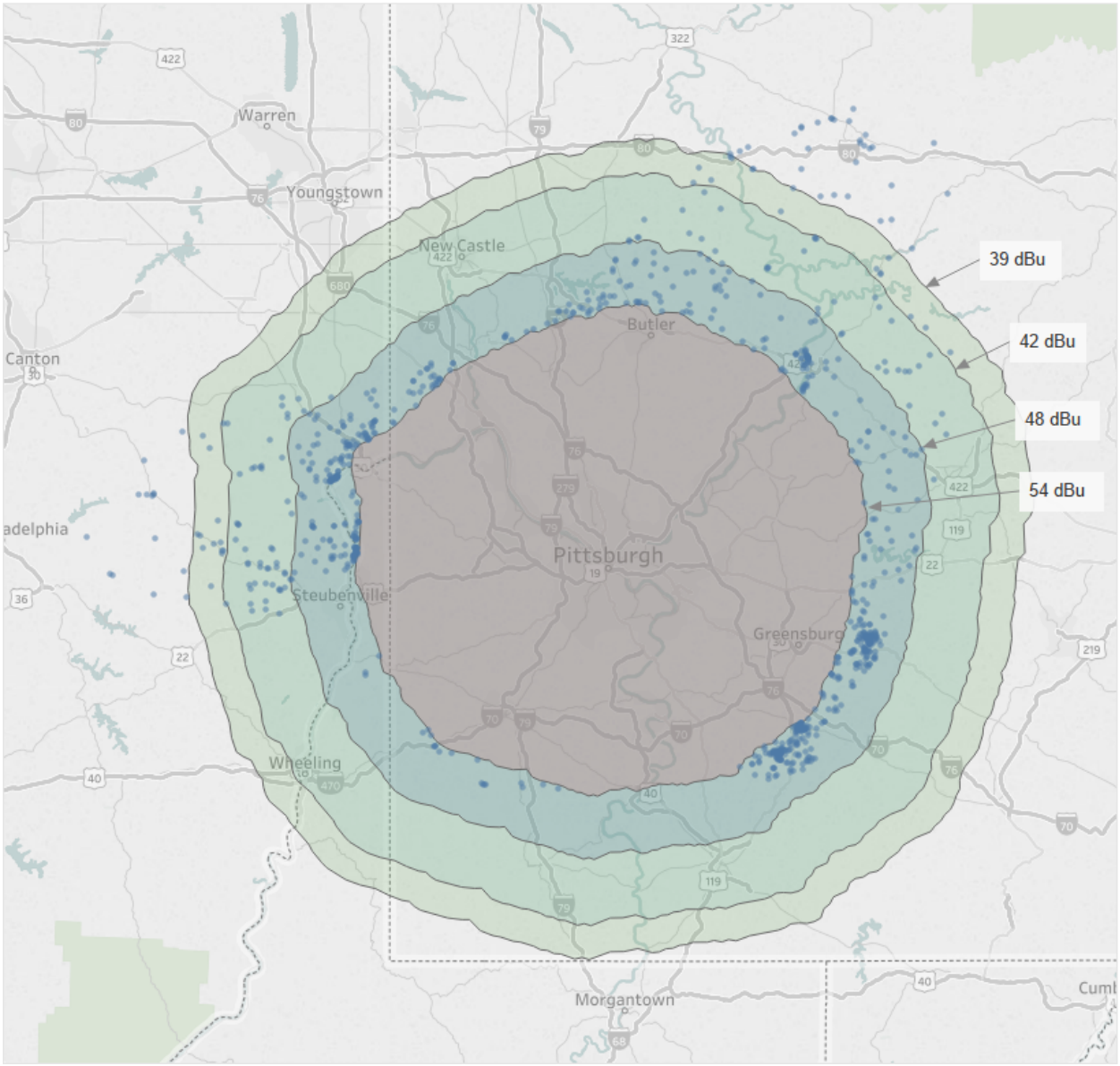


For WKVP Camden NJ, during 2017 there were:

- 2,041 contacts beyond 54 dBu,
- 1,183 contacts beyond 48 dBu,
- 373 contacts beyond 42 dBu, and
- 249 contacts beyond 39 dBu.

Note: Areas covered by other EMF stations with similar programming are excluded.

Pittsburgh PA - WPKV

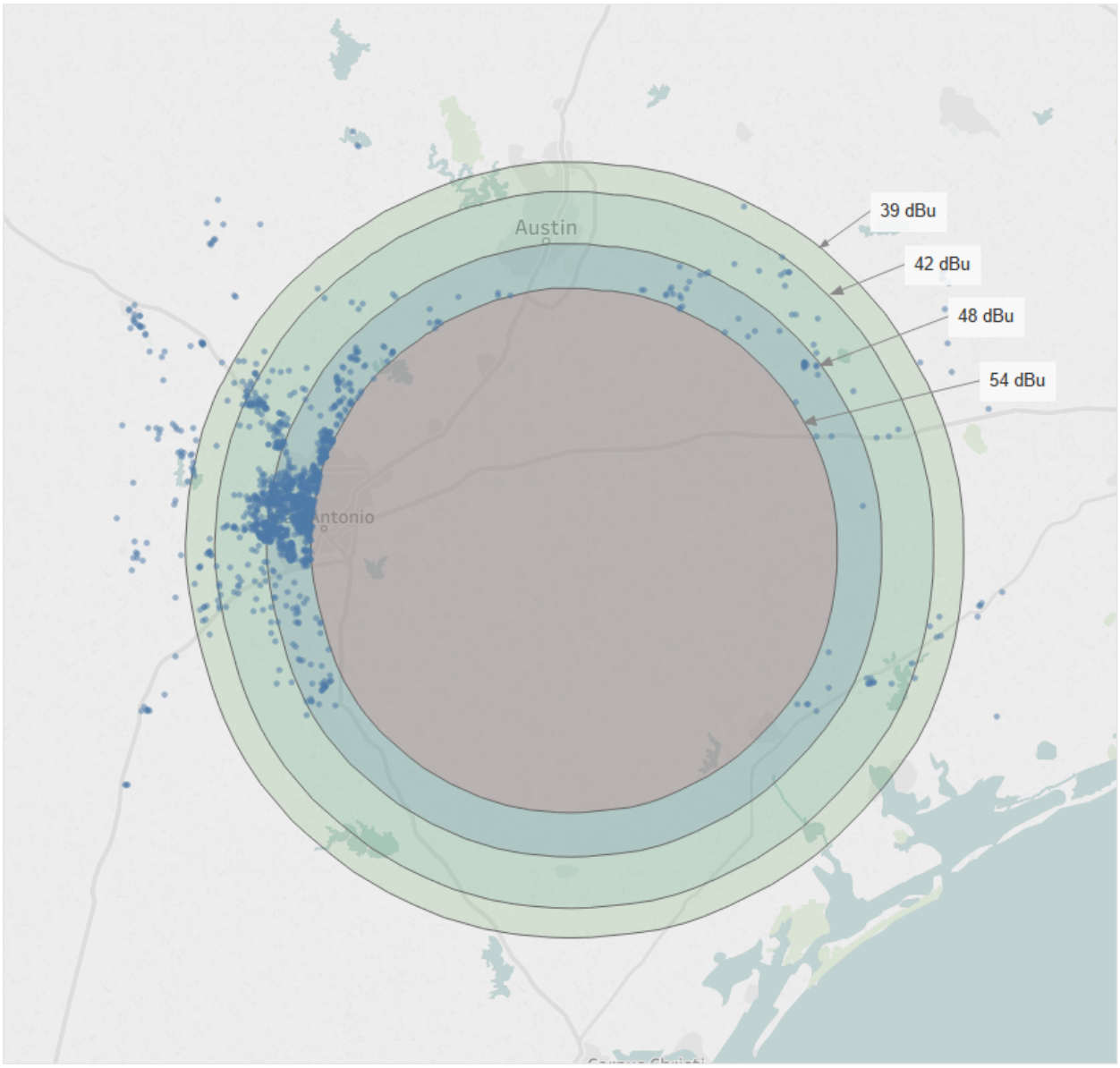


For WPKV Duquesne PA, during 2017 there were:

- 876 contacts beyond 54 dBu,
- 164 contacts beyond 48 dBu,
- 73 contacts beyond 42 dBu, and
- 45 contacts beyond 39 dBu.

Note: Areas covered by other EMF stations with similar programming are excluded.

San Antonio TX - KZAR

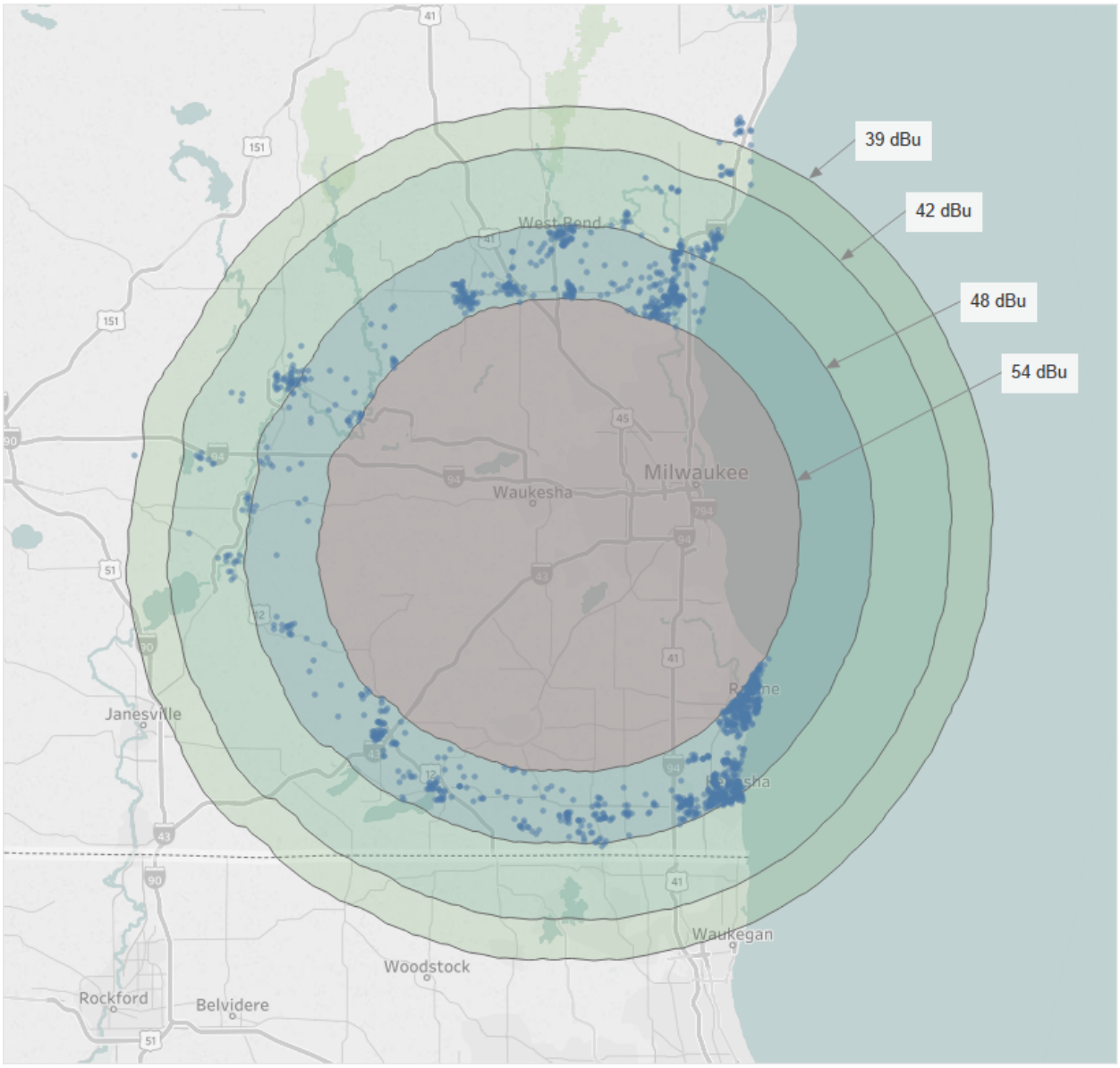


For KZAR McQueeney TX during 2017 there were:

- 1,373 contacts beyond 54 dBu,
- 479 contacts beyond 48 dBu,
- 163 contacts beyond 42 dBu, and
- 109 contacts beyond 39 dBu.

Note: Areas covered by other EMF stations with similar programming are excluded.

Milwaukee-Racine WI - WLVE

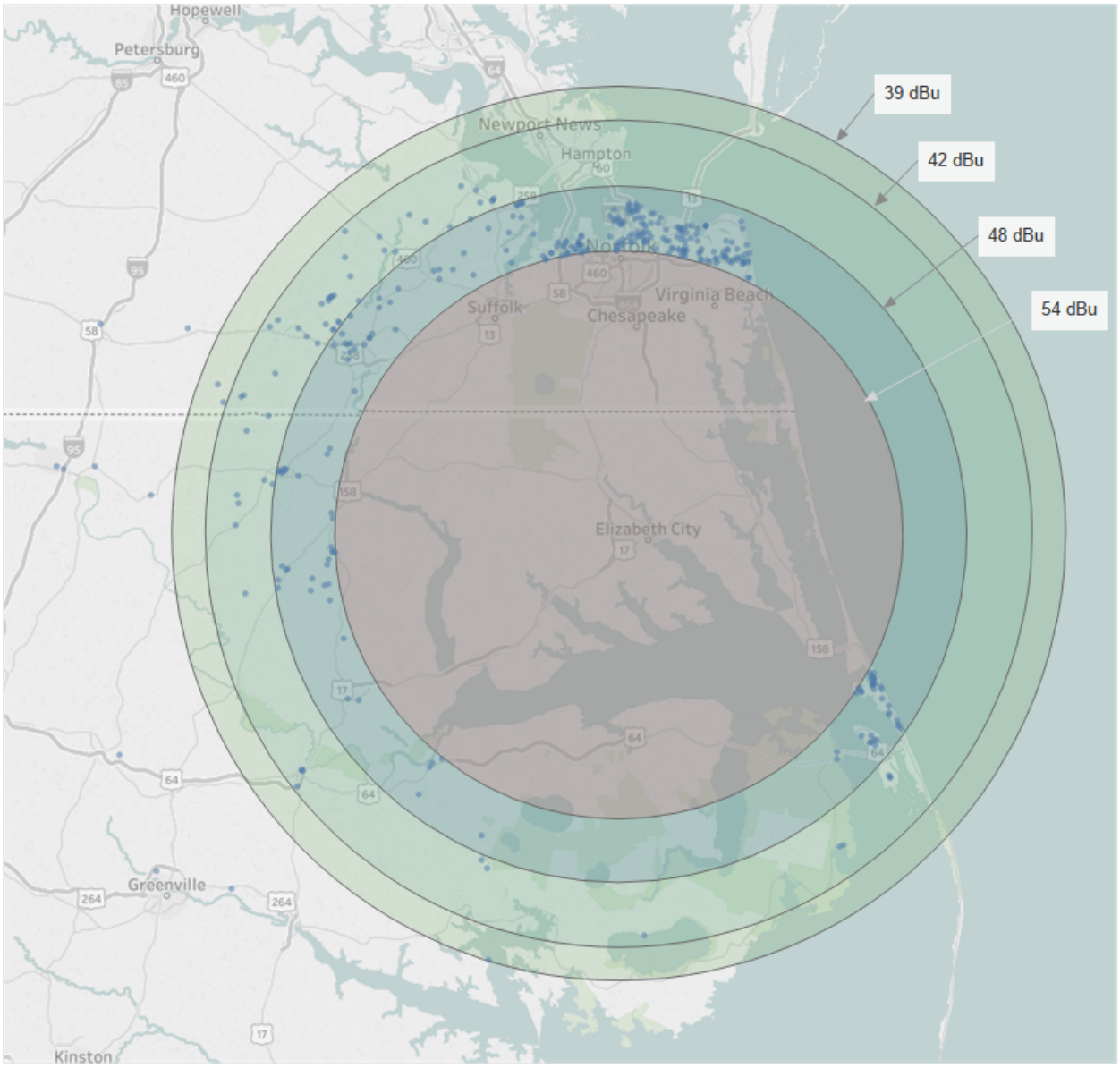


For WLVE Mukwonago WI, during 2017 there were:

- 1,469 contacts beyond 54 dBu,
- 206 contacts beyond 48 dBu,
- 28 contacts beyond 42 dBu, and
- 15 contacts beyond 39 dBu.

Note: Areas covered by other EMF stations with similar programming are excluded.

Norfolk VA - WGTI

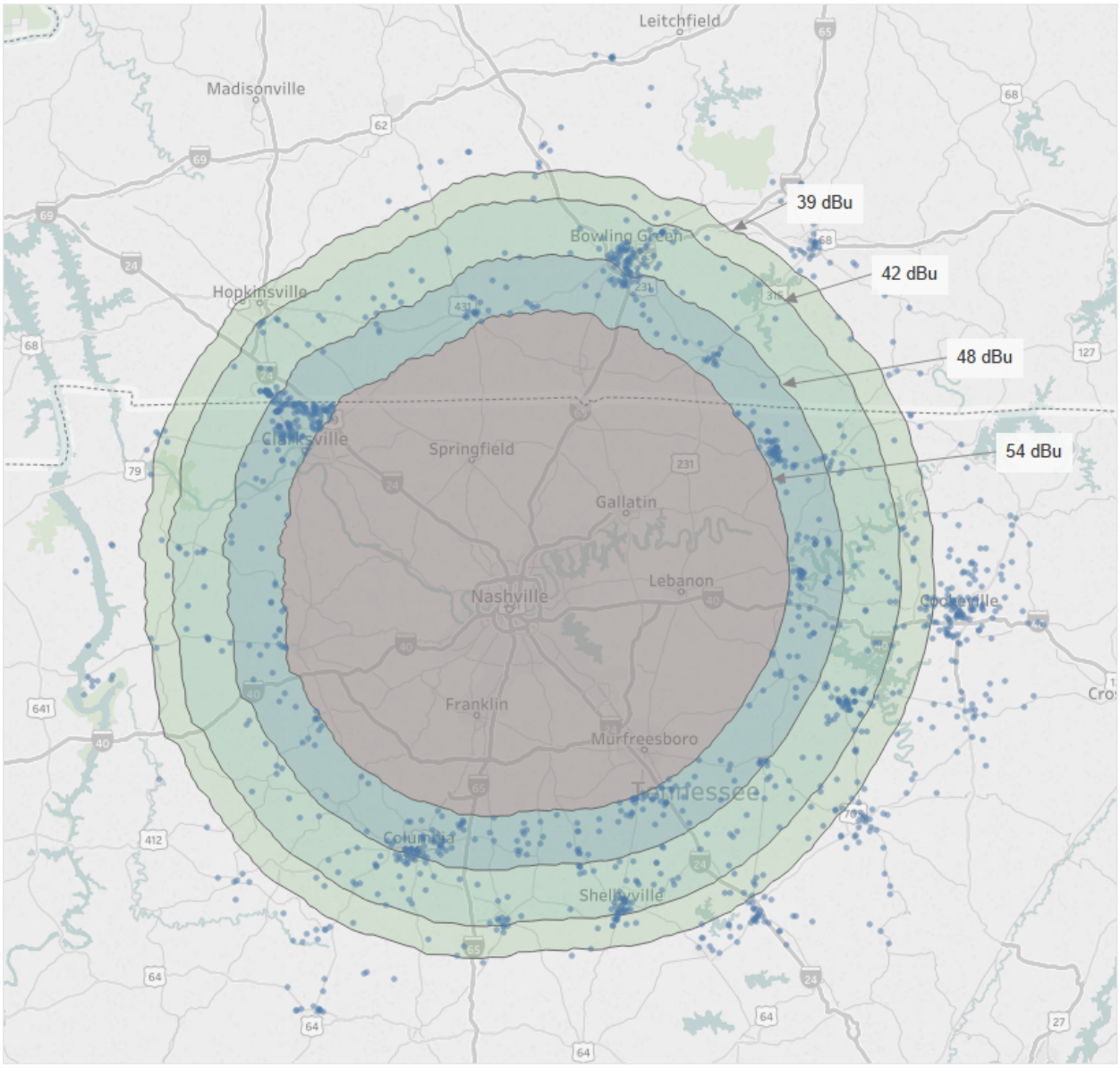


For WGTI Winfall NC, during 2017 there were:

- 345 contacts beyond 54 dBu,
- 68 contacts beyond 48 dBu,
- 12 contacts beyond 42 dBu, and
- 9 contacts beyond 39 dBu.

Note: Areas covered by other EMF stations with similar programming are excluded.

WLVU Nashville TN

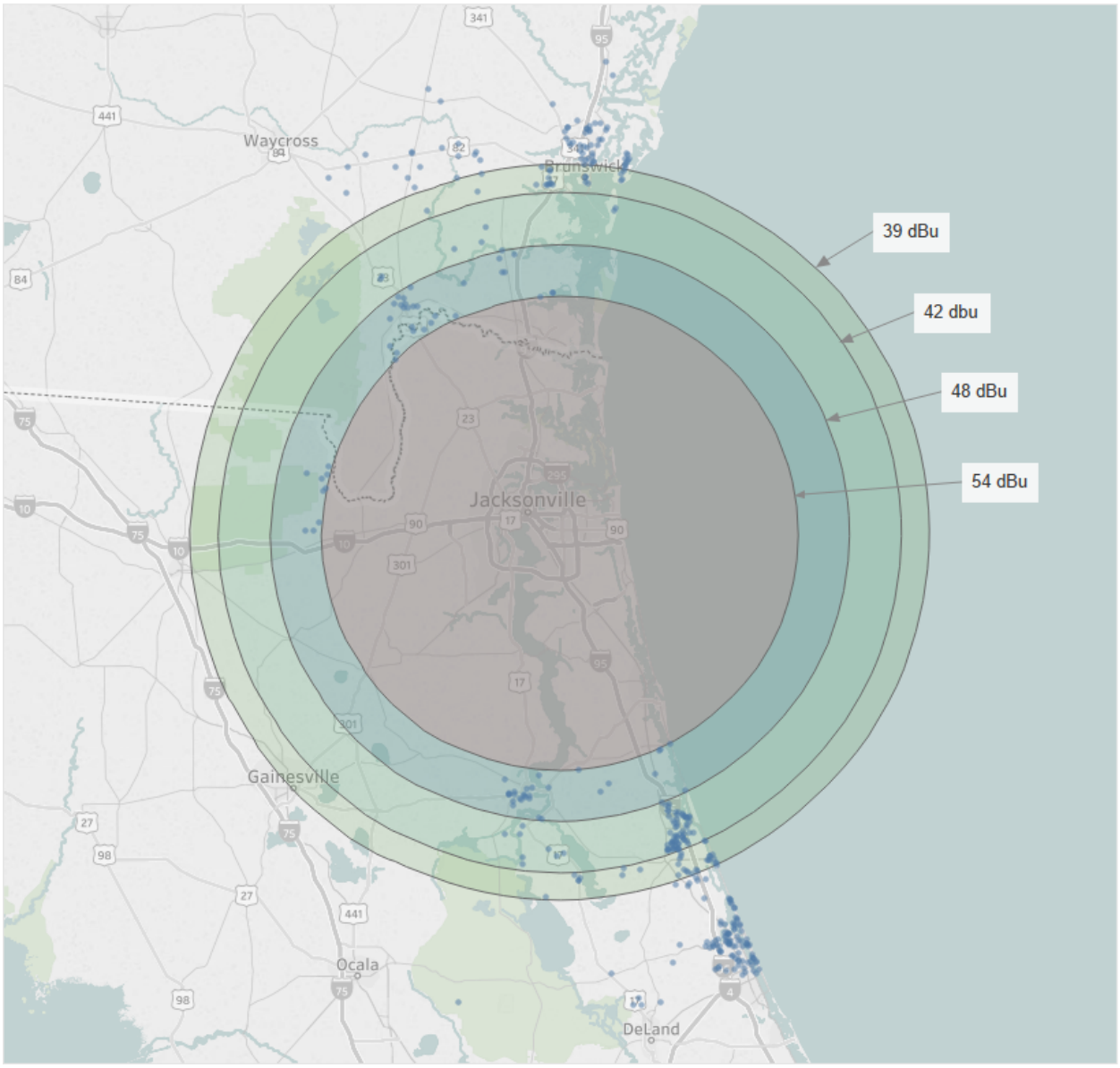


For WLVU Belle Meade TN, during 2017 there were:

- 1,244 contacts beyond 54 dBu,
- 757 contacts beyond 48 dBu,
- 412 contacts beyond 42 dBu, and
- 321 contacts beyond 39 dBu.

Note: Areas covered by other EMF stations with similar programming are excluded.

Jacksonville FL - WJKV

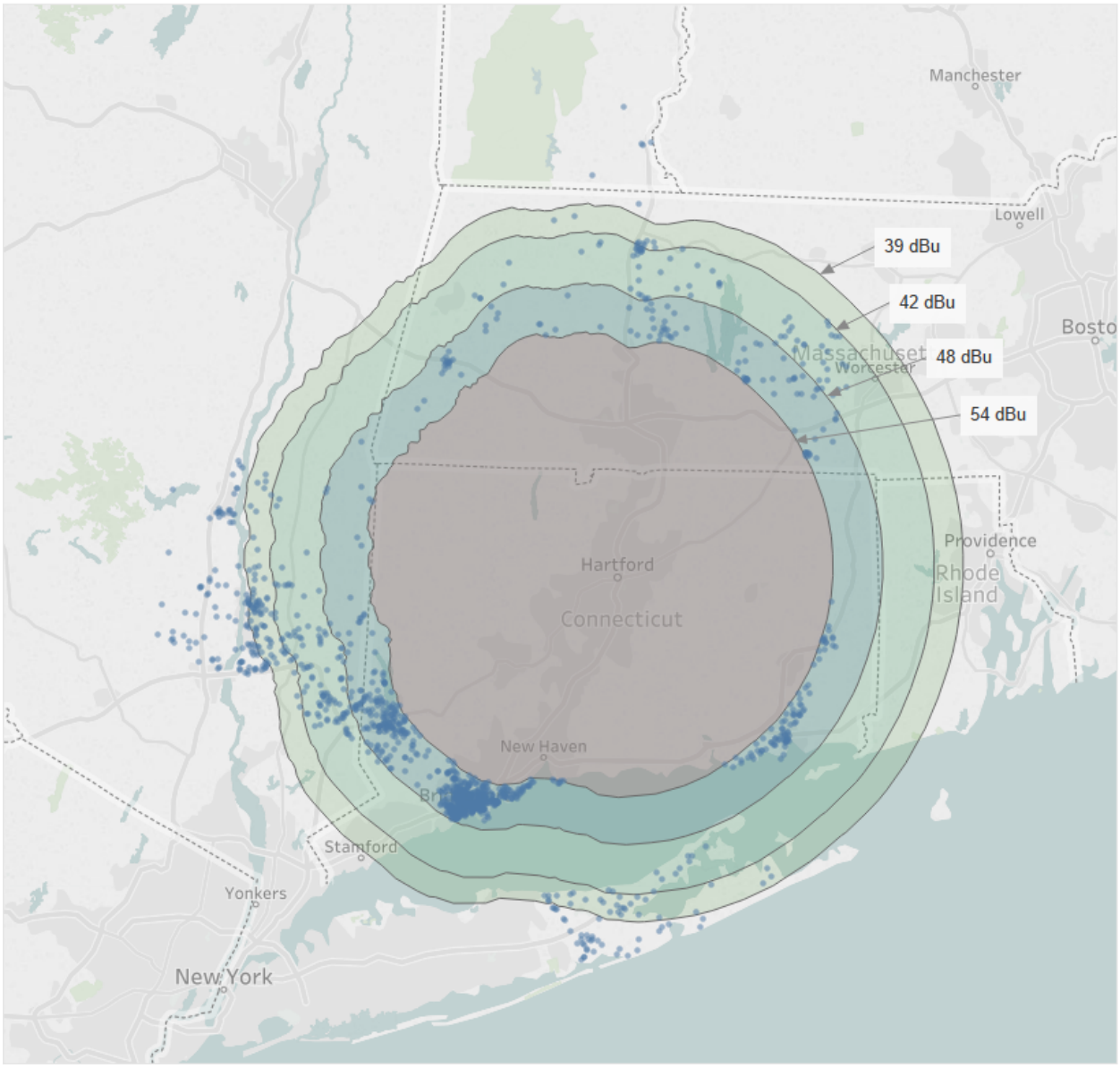


For WJKV in Jacksonville FL, during 2017 there were:

- 371 contacts beyond 54 dBu,
- 304 contacts beyond 48 dBu,
- 224 contacts beyond 42 dBu, and
- 172 contacts beyond 39 dBu.

Note: Areas covered by other EMF stations with similar programming are excluded.

Hartford CT - WCCC

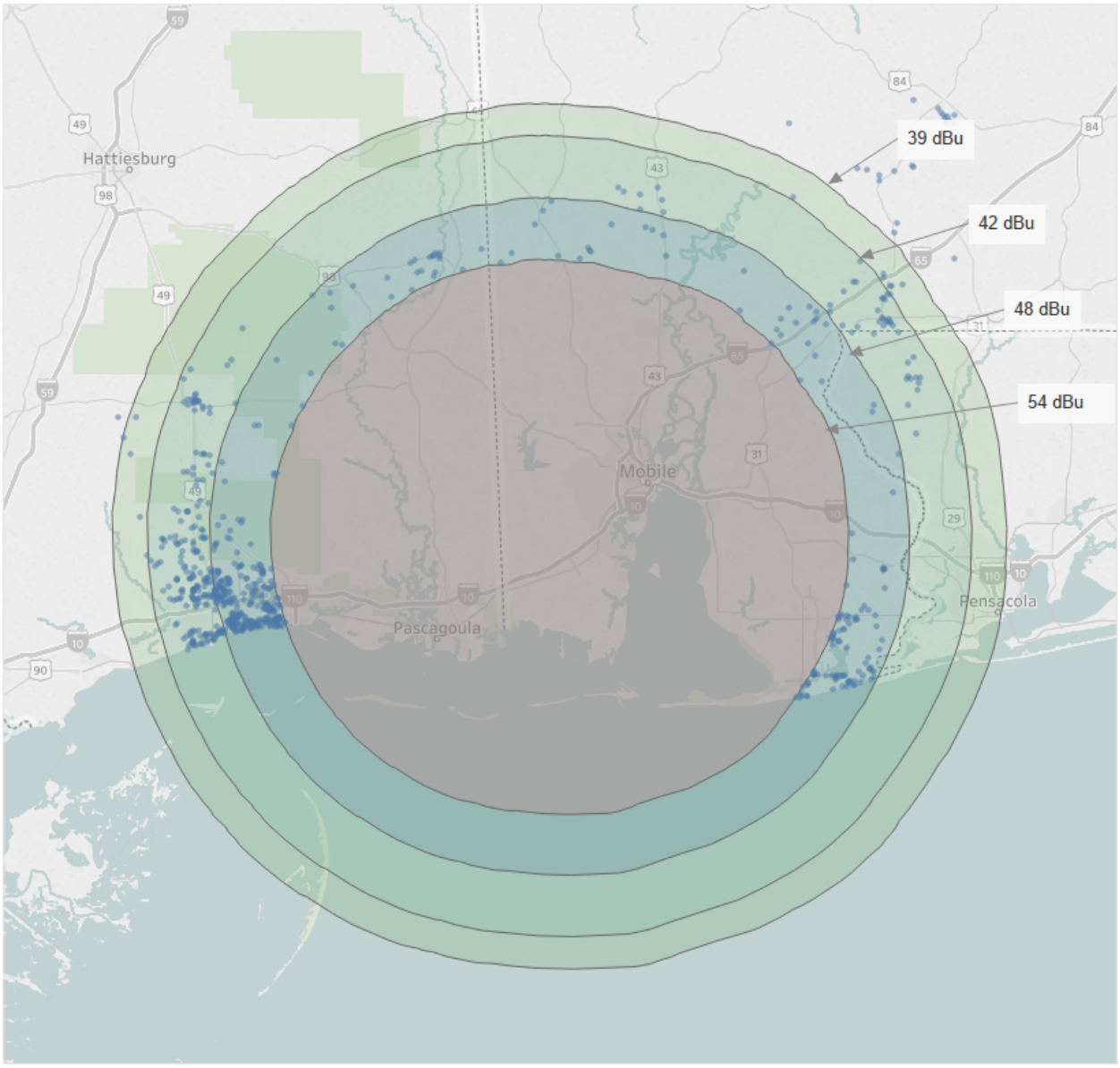


For WCCC Hartford CT, during 2017 there were:

- 1,391 contacts beyond 54 dBu,
- 434 contacts beyond 48 dBu,
- 254 contacts beyond 42 dBu, and
- 146 contacts beyond 39 dBu.

Note: Areas covered by other EMF stations with similar programming are excluded.

Mobile AL - WLVM

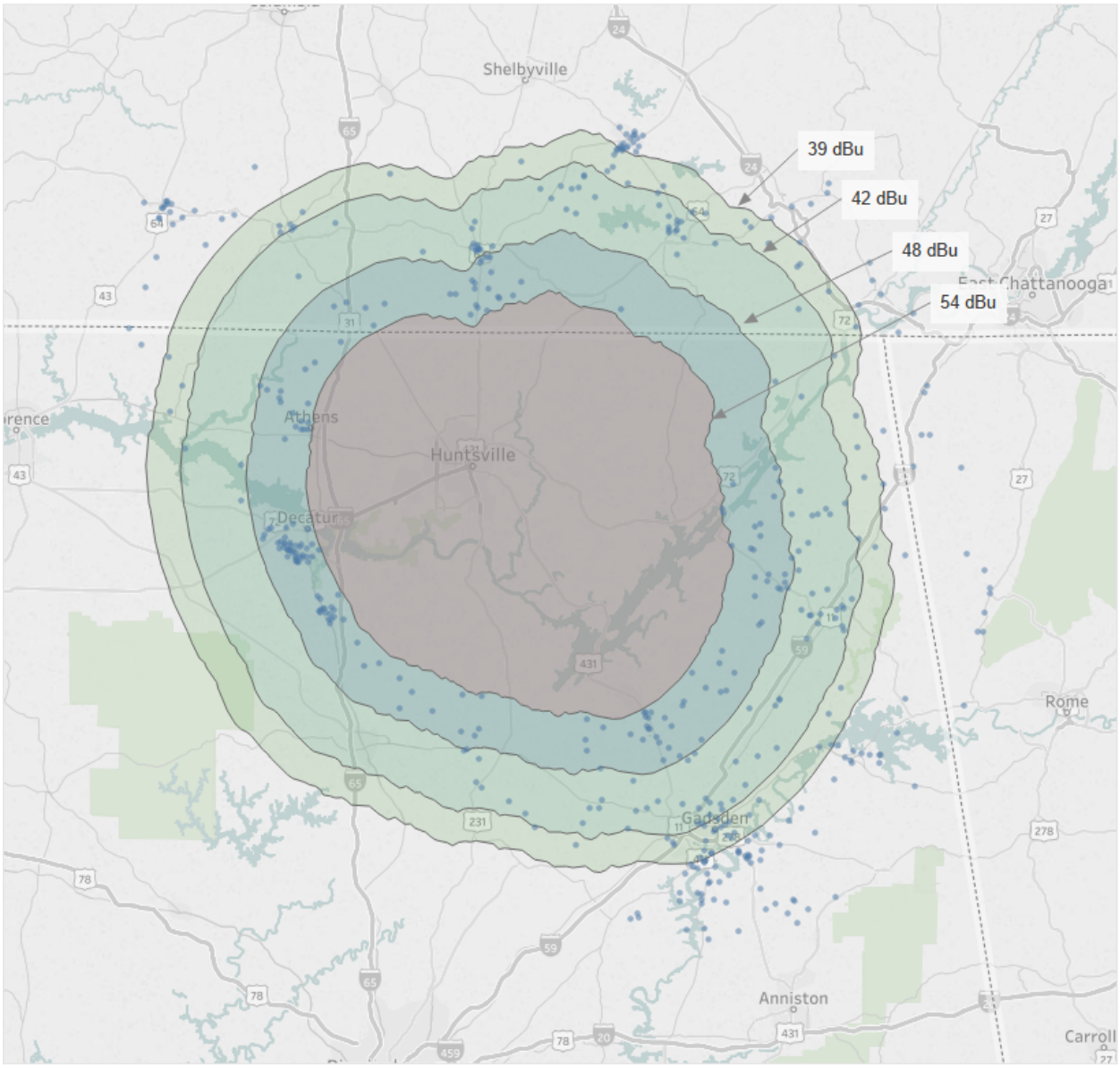


For WLVM Chickasaw AL, during 2017 there were:

- 738 contacts beyond 54 dBu,
- 289 contacts beyond 48 dBu,
- 44 contacts beyond 42 dBu, and
- 22 contacts beyond 39 dBu.

Note: Areas covered by other EMF stations with similar programming are excluded.

Huntsville AL - WHVK

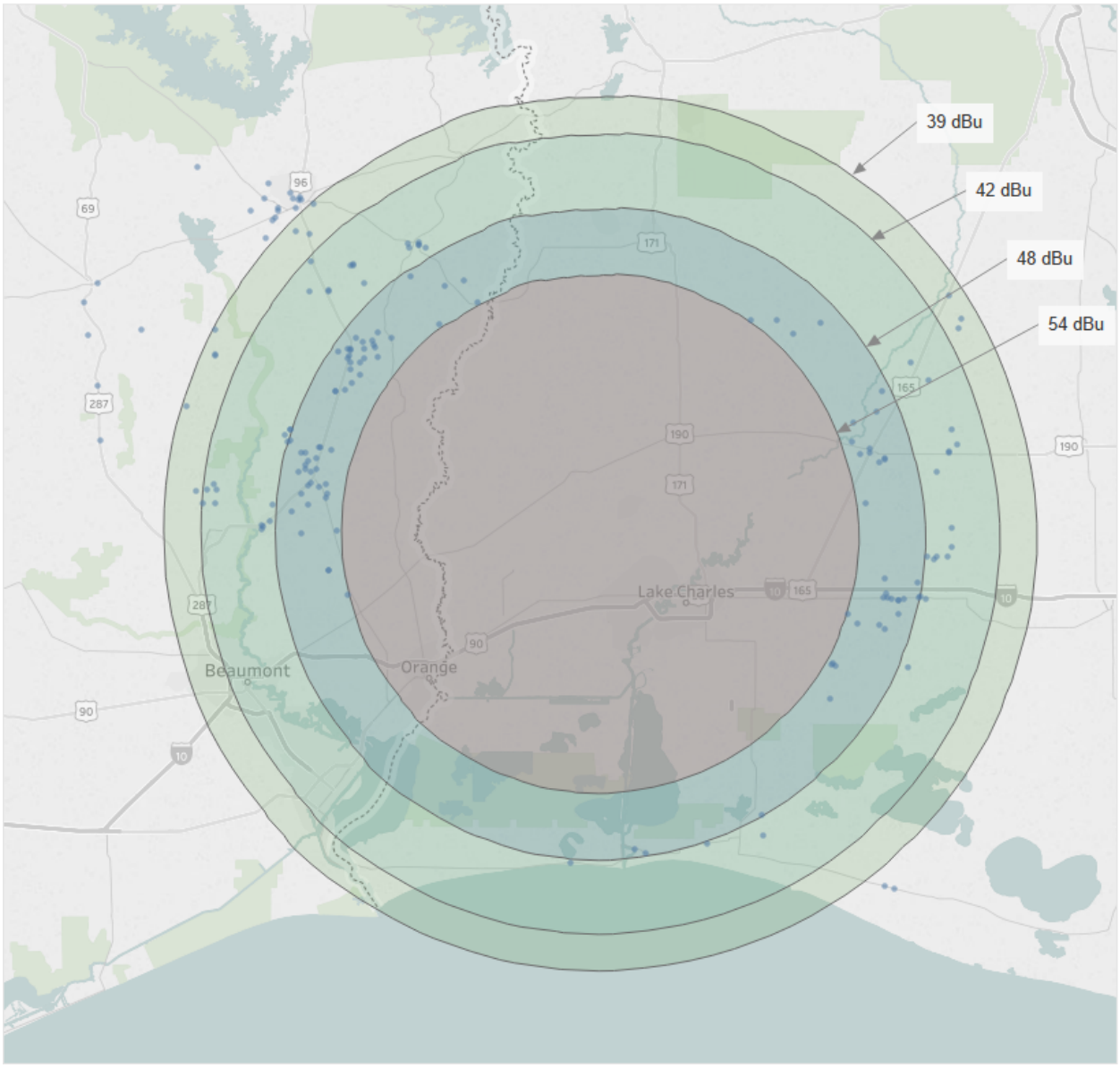


For WHVK New Hope AL, during 2017 there were:

- 476 contacts beyond 54 dBu,
- 307 contacts beyond 48 dBu,
- 199 contacts beyond 42 dBu, and
- 139 contacts beyond 39 dBu.

Note: Areas covered by other EMF stations with similar programming are excluded.

Lake Charles LA - KRLR

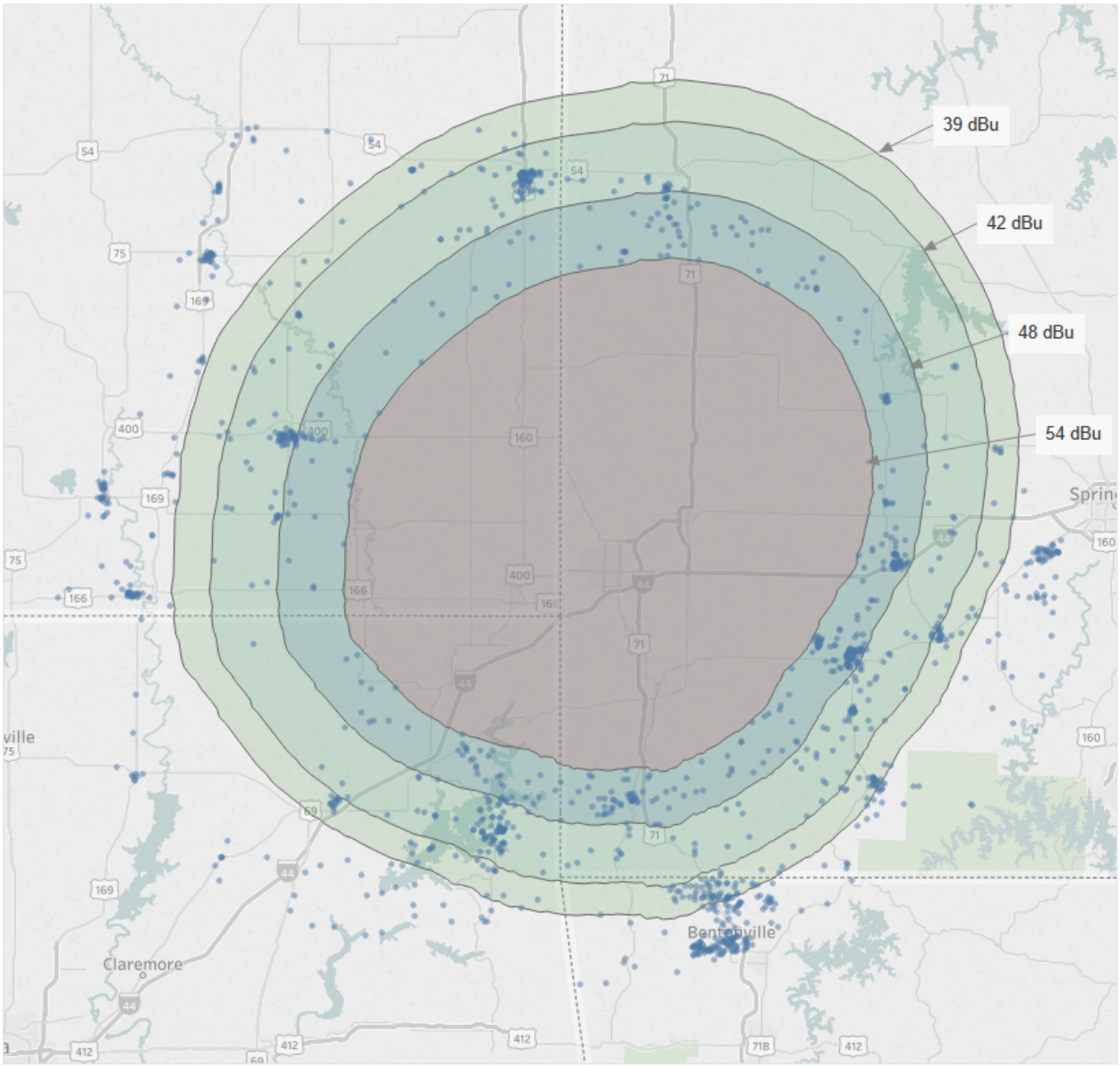


For KRLR Sulphur LA, during 2017 there were:

- 173 contacts beyond 54 dBu,
- 80 contacts beyond 48 dBu,
- 33 contacts beyond 42 dBu, and
- 22 contacts beyond 39 dBu.

Note: Areas covered by other EMF stations with similar programming are excluded.

Joplin MO - KOBC



For KOBC in Joplin MO, during 2017 there were:

- 1,315 contacts beyond 54 dBu,
- 934 contacts beyond 48 dBu,
- 560 contacts beyond 42 dBu, and
- 396 contacts beyond 39 dBu.

Note: Areas covered by other EMF stations with similar programming are excluded.

Exhibit 2

WKVP Camden. NJ
CoChannel Search Ring

WKVP
BMLED20130828AAG
Latitude: 39-54-33 N
Longitude: 075-06-00 W
ERP: 38.00 kW
Channel: 295
Frequency: 106.9 MHz
AMSL Height: 185.0 m
Elevation: 8.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

- WKVP (295)
- W282BT.C (295)
- W295AQ (295)
- W295CJ.C (295)
- W295CR.C (295)
- W295CV.C (295)
- W295BK (295)
- W295CK (295)
- WQKK (295)
- WEZX (295)
- WYPO (295)
- WWEG (295)
- WCCC (295)